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Felipe Martinez

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EXAMINER

YAGER, JAMES C

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/560,732
Filing Date: December 15, 2005
Appellant(s): MARTINEZ, FELIPE

James T. Hoppe
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 16 May 2011 appealing from the Office action mailed 13 October 2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

1-6, 8, 9, 11-14, 17, 18 and 20-22.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the

subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

6,114,025	DeVaudreuil et al.	9-2000
4,360,556	Heider	11-1982
3,963,403	Hughes et al.	6-1976

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-6, 8, 9, 11-14, 17, 18 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeVaudreuil et al. (US 6,114,025) in view of Heider (US 4,360,556).

Regarding claims 1-6, 8, 9, 11-14, 17, 18 and 20-22, DeVaudreuil discloses a foam sheet comprising 1 to about 90 weight percent of LLDPE and 10 to 99 weight percent of LDPE (i.e. a film consisting of one or more foamed polyolefin sheet; clearly overlapping wherein the sheet is made from a blend comprising 10-90 percent by weight LLDPE and 90-10 percent LDPE; clearly overlapping wherein the blend is made from 50 percent to 90 percent by weight of LLDPE; clearly overlapping wherein the blend contains about 70 percent LLDPE) (C2/L60-65), wherein the LLDPE has a specific gravity of about 910 to about 940 kg/m.³ and an MI of less than about 10

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dg/min (i.e. clearly overlapping wherein the LLDPE has a density in the range of 0.900 to 0.930 and an MI in the range of 2 and 6) (C3/L60-65, C4/L10-13), wherein the LDPE has a specific gravity of from about 915 to about 925 kg/m³ and an MFI of from about 0.2 to about 3.8 dg/min (i.e. wherein the LDPE has a density in the range of 0.917 g/cc to 0.923 g/cc and an MI in the range of from 0.2 to 6 g/10min) (C4/L50-55), wherein the thickness is less than about 13mm (i.e. clearly overlapping wherein the sheet is 3 to 8 mils thick; clearly overlapping wherein the sheet is about 3 mils thick; clearly overlapping wherein the sheet is less than 3 mils thick) (C7/L4-8).

DeVaudreuil does not disclose that the foamed polyolefin sheet has a density reduction of from 10 to 50 percent compared to a non foamed sheet of the same composition or that the sheet has a density reduction of at least 20 percent compared to a non foamed sheet of the same composition.

Heider discloses a foamed low density polyethylene sheet having a density reduction of about 10 to 20 percent over unfoamed sheet material (C1/L65-C2/L2, C2/L27-32). Heider further discloses that for this density reduction, the properties, such as impact resistance, coefficient of friction, ductility, tear resistance, environmental stress cracking resistance, elastic modulus, yield stress, yield strain, ultimate strength and ultimate elongation, are not proportionately reduced (C2/L28-42).

DeVaudreuil and Heider are analogous art because they both teach about foamed sheets comprising LDPE. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the amount of density reduction of Heider in the foam sheet of DeVaudreuil in order to provide a foam sheet

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that maintains good impact resistance, coefficient of friction, ductility, tear resistance, environmental stress cracking resistance, elastic modulus, yield stress, yield strain, ultimate strength and ultimate elongation.

Given that the foamed layer of modified DeVaudreuil is made of the same materials in the same proportions of the same thickness and density as the instantly claimed invention, it is clear that the foamed layer will possess identical properties i.e. having an MD tear strength of at least 150 gr/mil; the MD tear strength is greater than 350 gr/mil; the oxygen vapor transmission is 2.18 gr/mil/100 in.sq*24 hr; the oxygen vapor transmission is 270 cc.mil/100 in.sq*24 hr; having an MD tear strength of at least 50gr/mil.

Given that modified DeVaudreuil does not disclose that the foamed layer is crosslinked, it is the examiner's position that the polyolefin has no crosslinking.

Although modified DeVaudreuil does not disclose that the film is a blown film or that the foam layer has been made using a land length to die gap ratio of less than 25, or has been made using a blow up ratio of from about 2.2 to about 4.0 as claimed, it is noted that “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process”, *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) . Further, “although produced by a different process, the burden shifts to applicant to come

forward with evidence establishing an unobvious difference between the claimed product and the prior art product”, *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983). See MPEP 2113.

Therefore, absent evidence of criticality regarding the presently claimed blown film or the foamed layer has been made using a land length to die gap ratio of less than 25, or has been made using a blow up ratio of from about 2.2 to about 4.0 and given that modified DeVaudreuil meets the requirements of the claimed sheet, DeVaudreuil clearly meets the requirements of present claims 1, 12, 13, 17, 21 and 22.

While modified DeVaudreuil fails to exemplify the presently claimed thickness of the sheet nor can the claimed thickness be “clearly envisaged” from DeVaudreuil as required to meet the standard of anticipation (cf. MPEP 2131.03), nevertheless, in light of the overlap between the claimed thickness and the thickness disclosed by DeVaudreuil, absent a showing of criticality for the presently claimed thickness, it is urged that it would have been within the bounds of routine experimentation, as well as the skill level of one of ordinary skill in the art, to use 3 to 8mils thick; 3 mils thick; or less than 3 mils thick which is both disclosed by DeVaudreuil and encompassed within the scope of the present claims and thereby arrive at the claimed invention.

As set forth in MPEP 2144.05, in the case where the claimed range “overlap or lie inside ranges disclosed by the prior art”, a *prima facie* case of obviousness exists, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

Claims 12 and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over DeVaudreuil et al. (US 6,114,025) in view of Heider (US 4,360,556), as applied to claims 1 and 17 above, in further view of Hughes et al. (US 3,963,403).

Regarding claims 12 and 21, modified DeVaudreuil discloses all of the claim limitations as set forth above. Modified DeVaudreuil does not specifically disclose that the foam layer is made using a land length to die gap ratio of less than 25.

Hughes discloses a pipe made from foam plastic (C1/L13-15) that is made using a low land length to die gap ratio, optimally 2:1 (C2/L45-55). Hughes discloses that the low land length to die gap ratio prevents foaming upstream of the outlet and provides a stronger and leak resistant wall (C1/L48-51).

DeVaudreuil and Hughes are analogous art because they both teach about articles made of foamed plastic. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the land length to die gap ratio of 2 as disclosed by Hughes in the process of making the sheet of modified DeVaudreuil to provide a sheet that is stronger and leak resistant.

(10) Response to Argument

Applicant argues that the stated intended purpose of the films of DeVaudreuil is to provide protective packaging for items such as furniture and films less than 8 mils would offer almost no protection for such applications and that DeVaudreuil would not be considered to fairly teach foamed sheets having a thickness less than 8 mils despite being included in the statement "less than 13 mm".

Contrary to applicant's assertion, the film of DeVaudreuil is not limited to protective packaging for furniture, this is merely disclosed as a potential use of the film.

Even if DeVaudreuil were limited to protective packaging for furniture, it is the examiner's position that films less than 8 mils would offer protection because it would prevent scratching and marring of the surface.

It is noted that "the arguments of counsel cannot take the place of evidence in the record", *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). It is the examiner's position that the arguments provided by the applicant regarding whether films less than 8 mils would offer almost no protection for use as protective packaging for furniture must be supported by a declaration or affidavit. As set forth in MPEP 716.02(g), "the reason for requiring evidence in a declaration or affidavit form is to obtain the assurances that any statements or representations made are correct, as provided by 35 U.S.C. 24 and 18 U.S.C. 1001".

As set forth in the Office Action dated 13 October 2010, DeVaudreuil discloses that the thickness is less than about 13mm (i.e. clearly overlapping wherein the sheet is 3 to 8mils thick; clearly overlapping wherein the sheet is about 3 mils thick; clearly overlapping wherein the sheet is less than 3 mils thick) (C7/L4-8).

It is noted that "nonpreferred disclosures can be used. A nonpreferred portion of a reference disclosure is just as significant as the preferred portion in assessing the patentability of claims." *In re Nehrenberg*, 280 F.2d 161, 126 USPQ 383 (CCPA 1960).

Applicant argues that the upper limit of thickness disclosed by DeVaudreuil is 64 times higher than the upper limit of the present claims.

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Regardless of how high the upper limit of DeVaudreuil is, it is merely the upper limit. Given that DeVaudreuil does not specify a lower limit, every value between 0 and 13mm is within the range of DeVaudreuil.

Applicant argues that the materials of DeVaudreuil will not have the tear strength recited in the present claims and points to the Examples of DeVaudreuil which have lower MD tear strength than required by the instant claims.

Examiner does not argue that the film of DeVaudreuil has an MD tear strength of at least 150 gr/mil.

Examiner argues that **modified** DeVaudreuil meets this limitation.

Given that the foamed layer of **modified** DeVaudreuil is made of the same materials in the same proportions of the same thickness and density as the instantly claimed invention, it is clear that the foamed layer will possess identical properties i.e. having an MD tear strength of at least 150 gr/mil; the MD tear strength is greater than 350 gr/mil; the oxygen vapor transmission is 2.18 gr/mil/100 in.sq*24 hr; the oxygen vapor transmission is 270 cc.mil/100 in.sq*24 hr; having an MD tear strength of at least 50gr/mil.

Applicant argues that the examples of DeVaudreuil having a lower MD tear strength refutes the position that the foams of modified DeVaudreuil would inherently have the same properties.

The fact that the density of **modified** DeVaudreuil would be higher than the examples of DeVaudreuil and is identical to the density instantly claimed would suggest

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that the MD tear strength of **modified** DeVaudreuil would be higher than the examples of DeVaudreuil.

Applicant argues that claim 1 requires that the LLDPE component has a melt index in the range of from 2 to 6 g/10min, whereas DeVaudreuil recites that its LLDPE component has a melt index of from 0.5 to 1.5 g/10 min.

Applicant's assertion that DeVaudreuil recites that its LLDPE component has a melt index of from 0.5 to 1.5 g/10 min is clearly erroneous given that DeVaudreuil actually recites an MI of less than about 10 dg/min (i.e. clearly overlapping wherein the LLDPE has an MI in the range of 2 and 6) (C4/L10-13).

Applicant argues that DeVaudreuil does not disclose density reduction of from 10 to 50%.

Examiner agrees that DeVaudreuil does not disclose density reduction of from 10 to 50%, which is why Heider was used to teach this limitation.

Applicant argues that one of ordinary skill in the art would not combine DeVaudreuil with Heider because Heider is directed to carriers for attachment to cylindrical carriers (i.e. six pack rings) with the goal of reducing weight, while the goal of the instant invention is not to reduce weight and one would not modify DeVaudreuil in such a manner because the foamed film of DeVaudreuil is designed to protect furniture and decreasing the density reduction of the film would make it less effective at protecting furniture.

As set forth in the Office Action dated 13 October 2010, Heider discloses that for this density reduction, the properties, such as impact resistance, coefficient of friction,

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ductility, tear resistance, environmental stress cracking resistance, elastic modulus, yield stress, yield strain, ultimate strength and ultimate elongation, are not proportionately reduced (C2/L28-42).

While it remains examiner's position that the film of DeVaudreuil is not limited to protective packaging for furniture (this is merely disclosed as a potential use of the film), even if DeVaudreuil were limited to protective packaging for furniture, it is clear that the properties of good impact resistance, coefficient of friction, ductility, tear resistance, environmental stress cracking resistance, elastic modulus, yield stress, yield strain, ultimate strength and ultimate elongation would be very desirable for a film used to protect furniture since impact resistance would help prevent impact damage to the furniture, ductility, tear resistance, environmental stress cracking resistance, elastic modulus, yield stress and yield strain would help prevent the film from tearing and leaving part of the furniture uncovered.

Applicant argues that since Heider was published 16 years before DeVaudreuil, one of skill in the art would not have modified DeVaudreuil with Heider.

In response to applicant's argument based upon the age of the references, contentions that the reference patents are old are not impressive absent a showing that the art tried and failed to solve the same problem notwithstanding its presumed knowledge of the references. See *In re Wright*, 569 F.2d 1124, 193 USPQ 332 (CCPA 1977).

Given that DeVaudreuil does not recite one specific use for the film but rather that the film would be useful to perform many different functions, it would not be

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unreasonable to assume that good impact resistance, coefficient of friction, ductility, tear resistance, environmental stress cracking resistance, elastic modulus, yield stress, yield strain, ultimate strength and ultimate elongation would be desirable for some if not all functions.

Applicant argues that the thickness of the film is not a result effective variable because certain desirable properties decrease as the film thickness decreases and there is a limit to the thinness available through routine optimization.

Applicant's assertion that a certain level of thinness would not be desirable appears to further support the examiner's assertion that thickness of the film is within the bounds of routine experimentation. Applicant provides no evidence that the instant thickness could not be achieved through routine experimentation.

Applicant argues that regarding Hughes, techniques for use in extrusion techniques for making pipes would not be considered relevant to making a blown film and does not teach that it would result in fine homogeneous bubbles in a blown film and improve tear strength.

Note that while Hughes does not disclose all the features of the present claimed invention, Hughes is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely a low land length to die gap ratio, optimally 2:1 (C2/L45-55) and that the low land length to die gap ratio prevents foaming upstream of the outlet and provides a

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stronger and leak resistant wall (C1/L48-51), and in combination with the primary reference, discloses the presently claimed invention.

In response to applicant's argument that Hughes is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Hughes is in the field of endeavor (i.e. extrusion of plastic foam) and reasonably pertinent to the particular problem with which the applicant was concerned (i.e. preventing foaming upstream of the outlet and providing a stronger and leak resistant wall).

It is noted that "the arguments of counsel cannot take the place of evidence in the record", *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). It is the examiner's position that the arguments provided by the applicant regarding whether the instant land length to die gap ratio would result in fine homogeneous bubbles in a blown film and improve tear strength must be supported by a declaration or affidavit. As set forth in MPEP 716.02(g), "the reason for requiring evidence in a declaration or affidavit form is to obtain the assurances that any statements or representations made are correct, as provided by 35 U.S.C. 24 and 18 U.S.C. 1001".

In response to applicant's argument that the instant land length to die gap ratio would result in fine homogeneous bubbles in a blown film and improve tear strength, the fact that applicant has recognized another advantage which would flow naturally from

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following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/James C. Yager/

Examiner, Art Unit 1782

Conferees:

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